

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 32

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TAKAO NAKAMURA

Appeal No. 1997-0858
Application 08/323,065

HEARD: April 20, 2000

Before JOHN D. SMITH, GARRIS and OWENS, Administrative Patent Judges.

GARRIS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the final rejection of claims 1, 3 through 5, 8 and 12 through 14 which are all of the claims pending in the application.

The subject matter on appeal relates to a process for preparing a film formed of an oxide superconductor grown on a substrate by molecular beam epitaxy. This appealed subject

Appeal No. 1997-0858
Application No. 08/323,065

matter is adequately illustrated by independent claim 13 which reads as follows:

13. A process for preparing a film formed of an oxide superconductor having a clean, crystalline and superconductive surface grown on a substrate by molecular beam epitaxy, the process comprising the steps of:

placing said substrate in a vacuum chamber;

heating said substrate to a temperature in the range of 650°C. to 750°C.;

locally supplying an oxidizing gas in the proximity of the substrate to produce a pressure in a first region of said vacuum chamber in proximity to the substrate in the range of 6×10^{-6} to 8×10^{-5} Torr at a background pressure of lower than 1×10^{-9} Torr; and

maintaining a pressure differential between said first region of said vacuum chamber in proximity to said substrate and a second region of said vacuum chamber near an evaporation source, wherein a pressure in said second region is maintained at a pressure lower than the pressure in the first region of said vacuum chamber, wherein said film is deposited at a deposition rate in the range of 0.5 to 2 nanometers/minute.

The references relied upon by the examiner as evidence of obviousness are:

DeLozanne	5,004,721	Apr.
02, 1991		
Harada et al. (Harada)	5,143,896	Sep. 01,
1992		
Nonaka et al., (Nonaka), "Preparation of $\text{NdBa}_2\text{Cu}_3\text{O}_{7-x}$		

Appeal No. 1997-0858
Application No. 08/323,065

in ultrahigh vacuum with a NO₂ supersonic molecular beam", Appl. Phys. Lett., Vol. 57(26), 24 December, 1990.

Schuhl et al. (Schuhl), "Atomic layer by atomic layer growth of DyBaCuO superconducting thin films by molecular beam epitaxy", Appl. Phys. Lett., Vol. 57(8), 20 August 1990.

Wang et al. (Wang), "High T_c Films by Molecular Beam Epitaxy", High T_c Superconductor Thin Films, L. Correra, Editor, published by Elsevier Science Publishers B.V. (1992).

Claims 1, 5, 8 and 12 through 14 stand rejected under 35 U.S.C. § 103 as being unpatentable over Harada in view of Wang and DeLozanne while claims 3 and 4 stand correspondingly rejected over these references and further in view of Nonaka and Schuhl respectively.

OPINION

We cannot sustain any of the above-noted rejections.

In support of his proposal to modify the Harada process in a manner so as to result in the here claimed process, the examiner concludes that it would have been obvious for one with ordinary skill in the art to select, retain and/or modify certain process features while ignoring or eliminating other such features from the Harada, Wang and DeLozanne references.

Appeal No. 1997-0858
Application No. 08/323,065

Specifically, it is the examiner's conclusion that it would have been obvious to provide the Harada process with a pressure differential between

the substrate region and the evaporation source region in view of

DeLozanne's teaching. Central to the examiner's rejection, however, is the implicit proposition that the ordinarily skilled artisan would have found it obvious to use the pressure differential concept taught by DeLozanne but not the specific pressures taught by DeLozanne since these pressures do not correspond to those here claimed. Instead, the examiner concludes that it would have been obvious for the artisan in applying DeLozanne's pressure differential concept to Harada's process to employ as a background pressure (such as the pressure in the evaporation source region) the specific pressure taught by Wang. As for the appellant's claimed pressure in the substrate region, it is significant that none of the here applied references explicitly teach a substrate

Appeal No. 1997-0858
Application No. 08/323,065

region pressure within the here claimed range. Nevertheless, the examiner concludes that it would have been obvious to use in this region a pressure similar to that taught by Harada and that it would have been obvious to modify this pressure of Harada in a fashion so as to be within the range claimed by the appellant.

Thus, viewed in its most favorable light, the examiner's rejection of the independent claims on appeal requires the

selection of three different pressure parameters from three different references and combining them in such a way as to yield the pressure differential and pressure values required by the independent claims on appeal coupled with the modification of one pressure parameter while ignoring or eliminating other pressure values taught by the references. It is clear to us that the only guidance for so combining the applied references constitutes the appellant's own disclosure. Plainly, therefore, the rejection before us is based upon impermissible hindsight derived from the subject specification rather than upon some teaching, suggestion or incentive

Appeal No. 1997-0858
Application No. 08/323,065

derived from the applied prior art. W.L. Gore & Associates Inc. v. Garlock, Inc. 721 F.2d 1540, 1553, 220 USPQ 303, 312-313.

Under the foregoing circumstances, we cannot sustain the examiner's § 103 rejection of claims 1, 5, 8 and 12 through 14 as being unpatentable over Harada in view of Wang and DeLozanne. Moreover, since the deficiency of this rejection is shared by the rejections of dependent claims 3 and 4, these dependent claims rejections also cannot be sustained.

The decision of the examiner is reversed.

REVERSED

JOHN D. SMITH)	
Administrative Patent Judge)	
)	
)	
)	BOARD OF PATENT
BRADLEY R. GARRIS)	APPEALS AND

Appeal No. 1997-0858
Application No. 08/323,065

Administrative Patent Judge)	INTERFERENCES
)	
)	
)	
TERRY J. OWENS)	
Administrative Patent Judge)	

vsh

Appeal No. 1997-0858
Application No. 08/323,065

Edward J. Kondracki
Kerkam, Stowell, Kondracki & Clarke
Two Skyline Place, Suite 600
5203 Leesburgh Pike
Falls Church, VA 22041-3401